Subject Index

The subject headings used in this index are chosen in accordance with the ASM-SLA Metallurgical Literature Classification, International (Revised) Edition, published by the American Society for Metals, 1958.

Aircraft, materials
"K" Monel Solves Arresting Hook Problem, by Albert R. Mead 3-117
Refractory Metals for Air and Space Vehicles, Reported by R. H. Gassner 5-80
Space-Age Beryllium . . . Its Technology, by Robert H. Gassner 3-88

Alloy steel
Higher Molybdenum and Silicon Improve 4330 *(tn)* 4-66

Alloy steel, arc welding
Welding Solid-Fuel Rocket Motor Cases, by P. J. Rieppel 1-105

Alloy steel, fracture
Crack Growth During Static Tests of Rocket Motor Cases, by Harold Bernstein and J. A. Kies 2-79
Fracture Theory Applied to High-Strength Steels, by G. R. Irwin and J. A. Kies 2-73

Alloy steel, hardenability
Does Silicon Accelerate Decarburization?, by Peter Payson 6-78
Hardenability Bands for Steels 4320-H to 4718-H *(ds)* 4-132-B
Hardenability Bands for Steels 6118-H to 8630-H *(ds)* 5-100-B

Alloy steel, leaded
Revealing Lead Inclusions in Leaded Steels, by Gladys M. Chalfant 3-77

Alloy steel, mechanical properties
Modified 4340, Heat Treated to 270,000 to 300,000 Ultimate, by J. C. Chang, F. J. Herr and J. W. Sweet 5-104
Steel With 9% Nickel Stays Tough at −320° F. *(tn)* 6-65

Alloy steel, nickel
Progress With 25% Nickel Steels for High-Strength Applications 5-99

Alloy steel, transformations
Cooling Transformation Diagrams for A.I.S.I. 8620 and 8640, by R. C. Hess and D. J. Blickwede *(ds)* 6-100-B

Alloy steel sheet, notch sensitivity
Sheet Alloys Graded by "Sharp-Notch Sensitivity", by G. B. Espey 2-83

Alloying, gas
Open-Coil Process for Gas Alloying of Steel *(tn)* 2-66

Aluminum
Aluminum Applied to Steel by Vapor Deposition *(tn)* 5-66
Aluminum Cans Made by Impact Extrusion *(tn)* 4-66
Aluminum Railway Car Based on New Design *(tn)* 2-68
Welding Aluminum, Copper and Stainless Steel With Ultrasonics, by J. Byron Jones 1-117

Aluminum alloys
The Earliest Days of Precipitation Hardening, by W. J. Kroll *(c)* 1-134
The Earliest Days of Precipitation Hardening, by W. A. Mudge *(c)* 1-136
The Earliest Days of Precipitation Hardening, by John S. Shell *(c)* 1-138
Forge Welding High-Strength Aluminum and Magnesium Alloys, by L. A. Cook and D. G. Shafer 1-126
Homogenizing Duralumin, *(d)* 1-174
Metal Cutting, by S. Kobayashi, R. P. Herzog, D. M. Eggleston and E. G. Thomsen *(d)* 2-170
Progress in Aluminum Alloys 4-137

Aluminum castings, degassing
Degassing and Cleaning Aluminum With Nitrogen and Nitrogen-Chlorine Mixtures, by Roy F. Gottschalk 3-97

American Society for Metals, dedication
The National Headquarters of the American Society for Metals, Dedication, September 14, 1960 ..... 3-64-A

Arc cutting
Constricted-Arc Process Cuts Metals Under Water, by C. H. Wodtke 6-91

Arc heater
Arc Heater Raises Gases to Ultra-High Temperatures *(tn)* 4-66

Argon
Refractory Metals Worked in Argon-Filled Room *(tn)* 1-65

Armor
Chain Mail, by Cyril Stanley Smith *(d)* 4-286

Astroloy
Astrology—a Superalloy for 1900° F. Use, by J. F. Barker, W. H. Couts, Jr. and R. J. Morris 6-94

Atomic power
The A.E.C.'s Power Program *(aa)* 5-118
Future of Atomic Power, by Alvin M. Weinberg *(d)* 6-196

Austenite decomposition
Austenite Decomposition, by E. P. Klier and T. H. Yeh *(d)* 4-266

Automobiles
Magnesium Die Castings for Automobiles, by A. R. Tinetti 6-82
Materials and Process Applications in the Automotive Industry, by M. F. Garwood 4-115

Bainite
Space-Happy Bainite, by C. Patrick Kenyon *(c)* 2-120

Bearing metals
Fatigue of Bearing Steel, by R. A. Baughman *(d)* 6-201

Bend properties and tests
A Bend Test for Toughness, by D. K. Hanink *(c)* 4-150
A Bend Test for Toughness, by Dean K. Hanink and George R. Sippel 2-89
Size Effect in Notched Bend Tests, by S. Yukawa *(d)* 4-255

Beryllium
Space-Age Beryllium . . . Its Technology, by Robert H. Gassner 3-88

Biographies
Adolph Buehler. President, Buehler, Ltd., by Carl R. Weymueller 2-104
William Hunt Eisenman, 1886-1958, by Zay Jeffries 3-64-E

Bismuth
The Cd-Bi-In System, by E. A. Peretti *(d)* 4-208

Bolts, heading
More Parts by Cold Heading 4-77

Bonding, ceramic to metal
New Alloy for Metal-to-Ceramic Seals, *(tn)* 1-67

Boron
Boron in Steel, by R. A. Grange and J. B. Mitchell *(d)* 4-264
Boron Properties, by D. N. Williams *(d)* 2-158
Effect of Boron on "Weld Decay", by V. V. Levitin *(d)* 5-192

Brazing
Brazing René 41, by G. S. Hoppin III 5-75
Brazing Superalloys, by E. H. Kinelski and J. B. Adamec *(d)* 3-167-A
High-Temperature Brazing, by R. R. Ruppender *(c)* 1-142
High-Temperature Brazing, by Karl M. Weigert *(c)* 1-140

Cadmium
The Cd-Bi-In System, by E. A. Peretti *(d)* 4-208

Carbides, in steel
Efficient Spheroidization, by D. S. Kazarnovskiy *(d)* 3-148

Carbo-nitriding
Structure of Carburized and Carbo-Nitrided Cases, by S. R. Rouze and W. L. Grube 6-86

Carbon steel, strength, high temperature
Carbon Steel Stronger Than Low-Alloy Grade Above 1500° F. *(tn)* 2-65

Carbon steel sheet
How to Make Better Drawings and Stampings, by Paul G. Nelson 4-85

Carburizing
Structure of Carburized and Carbo-Nitrided Cases, by S. R. Rouze and W. L. Grube 6-86

Cast iron
Cast Iron Solidification, by Mats Hillert *(d)* 4-210
Good Design Pays Off in Zinc and Gray Iron Castings 6-122
Malleable Iron Castings, Reviewed by Carl F. Joseph *(br)* 5-121

Casting, investment
Large Investment Castings Made in Ceramic Shell Mold *(tn)* 2-67

Ceramics
Materials Progress in Ceramics *(tn)* 1-68
Materials Progress in Ceramics *(tn)* 2-68
Materials Progress in Graphite and Ceramics *(tn)* 5-68
Modern Ceramics: Ally of Modern Metals *(cp)* 5-69
New Science of Ceramics Takes Hold, Reported by W. W. Austin 5-88

Chemical conversion coating
Chemical Conversion of Metal Surfaces for Improved Corrosion Resistance, by Robert F. Ayres 3-101

Chromium, electroplating of
Advances in Chromium Plating, by D. E. Weimer *(d)* 1-178
New Routes to Better Electroplate for Zinc Die Castings, by W. H. Safranek 1-69
Plating Pure Chromium, by F. E. Block, P. C. Good and G. Asai *(d)* 3-160
Treating Waste From Chromium Plating, by A. J. D'Orazio *(sr)* 6-125

Chromizing
Chromizing in a Vacuum, by Frantisek Princ and Vaclav Navara *(d)* 6-205

Cladding
New Method for Surface Coating *(tn)* 2-67

Cleaning and polishing, mechanical
Mechanically Polished Surfaces, by L. E. Samuels *(d)* 3-190

***(aa)* Atomic Age; *(br)* Book Review; *(c)* Correspondence; *(cp)* Critical Points; *(d)* Digest; *(ds)* Data Sheet; *(lm)* Light Metallurgy; *(sr)* Short Runs; *(tn)* Technical News**

Subject Index

The subject headings used in this index are chosen in accordance with the ASM-SLA Metallurgical Literature Classification, International (Revised) Edition, published by the American Society for Metals, 1958.

Aircraft, materials
"K" Monel Solves Arresting Hook Problem, by Albert R. Mead 3-117
Refractory Metals for Air and Space Vehicles, Reported by R. H. Gassner 5-80
Space-Age Beryllium . . . Its Technology, by Robert H. Gassner 3-88

Alloy steel
Higher Molybdenum and Silicon Improve 4330 *(tn)* 4-66

Alloy steel, arc welding
Welding Solid-Fuel Rocket Motor Cases, by P. J. Rieppel 1-105

Alloy steel, fracture
Crack Growth During Static Tests of Rocket Motor Cases, by Harold Bernstein and J. A. Kies 2-79
Fracture Theory Applied to High-Strength Steels, by G. R. Irwin and J. A. Kies 2-73

Alloy steel, hardenability
Does Silicon Accelerate Decarburization?, by Peter Payson 6-78
Hardenability Bands for Steels 4320-H to 4718-H *(ds)* 4-132-B
Hardenability Bands for Steels 6118-H to 8630-H *(ds)* 5-100-B

Alloy steel, leaded
Revealing Lead Inclusions in Leaded Steels, by Gladys M. Chalfant 3-77

Alloy steel, mechanical properties
Modified 4340, Heat Treated to 270,000 to 300,000 Ultimate, by J. C. Chang, F. J. Herr and J. W. Sweet 5-104
Steel With 9% Nickel Stays Tough at −320° F. *(tn)* 6-65

Alloy steel, nickel
Progress With 25% Nickel Steels for High-Strength Applications 5-99

Alloy steel, transformations
Cooling Transformation Diagrams for A.I.S.I. 8620 and 8640, by R. C. Hess and D. J. Blickwede *(ds)* 6-100-B

Alloy steel sheet, notch sensitivity
Sheet Alloys Graded by "Sharp-Notch Sensitivity", by G. B. Espey 2-83

Alloying, gas
Open-Coil Process for Gas Alloying of Steel *(tn)* 2-66

Aluminum
Aluminum Applied to Steel by Vapor Deposition *(tn)* 5-66
Aluminum Cans Made by Impact Extrusion *(tn)* 4-66
Aluminum Railway Car Based on New Design *(tn)* 2-68
Welding Aluminum, Copper and Stainless Steel With Ultrasonics, by J. Byron Jones 1-117

Aluminum alloys
The Earliest Days of Precipitation Hardening, by W. J. Kroll *(c)* 1-134
The Earliest Days of Precipitation Hardening, by W. A. Mudge *(c)* 1-136
The Earliest Days of Precipitation Hardening, by John S. Shell *(c)* 1-138
Forge Welding High-Strength Aluminum and Magnesium Alloys, by L. A. Cook and D. G. Shafer 1-126
Homogenizing Duralumin, *(d)* 1-174
Metal Cutting, by S. Kobayashi, R. P. Herzog, D. M. Eggleston and E. G. Thomsen *(d)* 2-170
Progress in Aluminum Alloys 4-137

Aluminum castings, degassing
Degassing and Cleaning Aluminum With Nitrogen and Nitrogen-Chlorine Mixtures, by Roy F. Gottschalk 3-97

American Society for Metals, dedication
The National Headquarters of the American Society for Metals, Dedication, September 14, 1960 ..... 3-64-A

Arc cutting
Constricted-Arc Process Cuts Metals Under Water, by C. H. Wodtke 6-91

Arc heater
Arc Heater Raises Gases to Ultra-High Temperatures *(tn)* 4-66

Argon
Refractory Metals Worked in Argon-Filled Room *(tn)* 1-65

Armor
Chain Mail, by Cyril Stanley Smith *(d)* 4-286

Astroloy
Astrology—a Superalloy for 1900° F. Use, by J. F. Barker, W. H. Couts, Jr. and R. J. Morris 6-94

Atomic power
The A.E.C.'s Power Program *(aa)* 5-118
Future of Atomic Power, by Alvin M. Weinberg *(d)* 6-196

Austenite decomposition
Austenite Decomposition, by E. P. Klier and T. H. Yeh *(d)* 4-266

Automobiles
Magnesium Die Castings for Automobiles, by A. R. Tinetti 6-82
Materials and Process Applications in the Automotive Industry, by M. F. Garwood 4-115

Bainite
Space-Happy Bainite, by C. Patrick Kenyon *(c)* 2-120

Bearing metals
Fatigue of Bearing Steel, by R. A. Baughman *(d)* 6-201

Bend properties and tests
A Bend Test for Toughness, by D. K. Hanink *(c)* 4-150
A Bend Test for Toughness, by Dean K. Hanink and George R. Sippel 2-89
Size Effect in Notched Bend Tests, by S. Yukawa *(d)* 4-255

Beryllium
Space-Age Beryllium . . . Its Technology, by Robert H. Gassner 3-88

Biographies
Adolph Buehler. President, Buehler, Ltd., by Carl R. Weymueller 2-104
William Hunt Eisenman, 1886-1958, by Zay Jeffries 3-64-E

Bismuth
The Cd-Bi-In System, by E. A. Peretti *(d)* 4-208

Bolts, heading
More Parts by Cold Heading 4-77

Bonding, ceramic to metal
New Alloy for Metal-to-Ceramic Seals, *(tn)* 1-67

Boron
Boron in Steel, by R. A. Grange and J. B. Mitchell *(d)* 4-264
Boron Properties, by D. N. Williams *(d)* 2-158
Effect of Boron on "Weld Decay", by V. V. Levitin *(d)* 5-192

Brazing
Brazing René 41, by G. S. Hoppin III 5-75
Brazing Superalloys, by E. H. Kinelski and J. B. Adamec *(d)* 3-167-A
High-Temperature Brazing, by R. R. Ruppender *(c)* 1-142
High-Temperature Brazing, by Karl M. Weigert *(c)* 1-140

Cadmium
The Cd-Bi-In System, by E. A. Peretti *(d)* 4-208

Carbides, in steel
Efficient Spheroidization, by D. S. Kazarnovskiy *(d)* 3-148

Carbo-nitriding
Structure of Carburized and Carbo-Nitrided Cases, by S. R. Rouze and W. L. Grube 6-86

Carbon steel, strength, high temperature
Carbon Steel Stronger Than Low-Alloy Grade Above 1500° F. *(tn)* 2-65

Carbon steel sheet
How to Make Better Drawings and Stampings, by Paul G. Nelson 4-85

Carburizing
Structure of Carburized and Carbo-Nitrided Cases, by S. R. Rouze and W. L. Grube 6-86

Cast iron
Cast Iron Solidification, by Mats Hillert *(d)* 4-210
Good Design Pays Off in Zinc and Gray Iron Castings 6-122
Malleable Iron Castings, Reviewed by Carl F. Joseph *(br)* 5-121

Casting, investment
Large Investment Castings Made in Ceramic Shell Mold *(tn)* 2-67

Ceramics
Materials Progress in Ceramics *(tn)* 1-68
Materials Progress in Ceramics *(tn)* 2-68
Materials Progress in Graphite and Ceramics *(tn)* 5-68
Modern Ceramics: Ally of Modern Metals *(cp)* 5-69
New Science of Ceramics Takes Hold, Reported by W. W. Austin 5-88

Chemical conversion coating
Chemical Conversion of Metal Surfaces for Improved Corrosion Resistance, by Robert F. Ayres 3-101

Chromium, electroplating of
Advances in Chromium Plating, by D. E. Weimer *(d)* 1-178
New Routes to Better Electroplate for Zinc Die Castings, by W. H. Safranek 1-69
Plating Pure Chromium, by F. E. Block, P. C. Good and G. Asai *(d)* 3-160
Treating Waste From Chromium Plating, by A. J. D'Orazio *(sr)* 6-125

Chromizing
Chromizing in a Vacuum, by Frantisek Princ and Vaclav Navara *(d)* 6-205

Cladding
New Method for Surface Coating *(tn)* 2-67

Cleaning and polishing, mechanical
Mechanically Polished Surfaces, by L. E. Samuels *(d)* 3-190

(aa) **Atomic Age;** *(br)* **Book Review;** *(c)* **Correspondence;** *(cp)* **Critical Points;** *(d)* **Digest;** *(ds)* **Data Sheet;** *(lm)* **Light Metallurgy;** *(sr)* **Short Runs;** *(tn)* **Technical News**

Cleaning, ultrasonic
Ultrasonic Agitation Gives New Life to Pickling and Cleaning Baths, by H. F. Osterman and A. V. Santa Lucia....2-110

Coloring
Color Finishing of Galvanized Steel, Staff Report....6-105

Columbium
Cb-C System, by R. P. Elliott *(d)*....4-246
Columbium Alloys Today. Considerations in Design and Fabrication of Structures, by L. P. Jahnke, R. G. Frank and T. K. Redden....1-76
Rhenium-Columbium Alloys, by P. Levesque, W. R. Bekebrede and H. A. Brown *(d)*....4-260
Zinc Protects Hot Columbium *(tn)*....6-66

Cooling diagram
Cooling Transformation Diagrams for A.I.S.I. 8620 and 8640, by R. C. Hess and D. J. Blickwede *(ds)*....6-100-B

Copper, ultrasonic welding
Welding Aluminum, Copper and Stainless Steel With Ultrasonics, by J. Byron Jones....1-117

Copper alloys
Eutectic Alloying of Copper . . . a New Concept in Dispersion Hardening, by D. N. Williams, J. W. Roberts and R. I. Jaffee....2-108
Progress in Copper Alloys....4-143

Copper alloys, arc welding
A Practical Technique for Welding Gun Metal, by L. A. DePue and W. A. Pennington....2-98

Copper alloys, casting
A Century-Old Test of Metal, by Harold J. Roast....6-99

Copper tubing and pipe, resistance welding
High-Frequency Resistance Welding Fills Need for Fast Joining Method, by Wallace C. Rudd....1-120

Corrosion
Mechanisms of Corrosion *(d)*....5-170
New Theory Explains Corrosion of Iron *(tn)*....4-66

Corrosion, intergranular
Salt Corrodes 18-8 Stainless Steels, by H. W. Pickering, F. H. Beck and M. G. Fontana *(d)*....4-200

Corrosion, stress
Bimetallic Heat Exchanger Tubes Solve Dual Corrosion Problem, by W. G. Ashbaugh and S. E. Doughty....6-115

Crystal structure, texture and preferred orientation
Cylindrical Textures, by S. Leber *(d)*....4-192

Decarburization
Does Silicon Accelerate Decarburization?, by Peter Payson....6-78

Defects
Defects in Steel, by T. W. Crosta *(d)*....6-190

Dictionaries
Metallurgy Versus Linguistics, by Livius Maria Botar *(c)*....6-134

Die castings
Auto Makers Trim Costs With Magnesium Die Castings *(tn)*....6-67
Die Casting Quality Control, by H. J. Sharp *(d)*....3-163-A
Magnesium Die Castings for Automobiles, by A. R. Tinetti....6-82

Diffusion, self
Self-diffusion in Single Crystals, by A. Mesaner, R. Benson and J. Dorn *(d)*....4-242

Distortion
Distortion . . . a Heat Treater's Problem, Reviewed by George A. Roberts *(br)*....2-106

Documentation
Information searching, by Marjorie R. Hyslop *(d)*....6-168

Drawing
How to Make Better Drawings and Stampings, by Paul G. Nelson....4-85

Electric arc furnaces
Consumable Electrode Arc Furnace Control, by H. V. Kinsey *(c)*....2-118

Electrical materials
Microstructure of Electrical Steel, by W. C. Leslie, R. L. Rickett, C. P. Stroble and G. Konoval *(d)*....4-258

Electronic equipment
Electronic Metallurgy, by Harvey A. Anderson....5-119

Electroplating
Advances in Chromium Plating, by D. E. Weimer *(d)*....1-178
Ductility of Coatings, by H. J. Read and T. J. Whalen *(d)*....6-194
Plating in Narrow Crevices, by L. B. Garmon and Henry Leidheiser, Jr. *(d)*....2-146
Plating Pure Chromium, by F. E. Block, P. C. Good and G. Asai *(d)*....3-160
Treating Waste From Chromium Plating, by A. J. D'Orazio *(sr)*....6-125

Explosive forming
Explosive Forming and Chemical Milling Discussed, by Robert C. Bertossa....3-112

Fatigue properties and tests
Fatigue From Impact, by N. N. Davidenkov and E. I. Belyaeva *(d)*....5-190
Fatigue of Bearing Steel, by R. A. Baughman *(d)*....6-201
Microstructure Affects Fatigue Strength of Steel, by F. Borik and R. D. Chapman *(d)*....4-222

Fiber metallurgy
Fiber Metallurgy: The Study of Whiskers *(cp)*....6-69
Metals Reinforced With Fibers, by D. L. McDanels, R. W. Jech and J. W. Weeton....6-118

Finishing
Zinc Coatings Applied by Tumbling *(tn)* 3-67

Finishing, synthetic resin
Color Finishing of Galvanized Steel, Staff Report....6-105

Flaw detection
New Vistas for Magnetic Particle Testing *(tn)*....2-67
Nondestructive Testing—a Complete Survey, Reviewed by T. W. Judd....6-98
Nondestructive Testing of Reactor Materials *(d)*....6-148
Nondestructive Testing of Small Tubing, by J. R. Grieve and A. M. Bounds....6-110

Formability
Formability Tests for Sheet Metal, by Tom Bishop....5-95
New Concepts of Drawability of Steels, by R. L. Whiteley and D. J. Blickwede 4-74

Forming
Forming Galvanized Sheet Steel, by Paul G. Nelson....5-93

Fracture
A Bend Test for Toughness, by Dean K. Hanink and George R. Sippel....2-89

Fracture, brittle
Brittle Fracture in Ductile Steel, by B. L. Averbach *(d)*....3-156
Fracture Theory Applied to High-Strength Steels, by G. R. Irwin and J. A. Kies....2-73
The Problem of Brittle Fracture *(cp)*....2-69
Sheet Alloys Graded by "Sharp-Notch Sensitivity", by G. B. Espey....2-83

Fracture, crack propagation
Crack Growth During Static Tests of Rocket Motor Cases, by Harold Bernstein and J. A. Kies....2-79

Fracture, tests
A New Fracture Test for Alloy Steels, by D. L. Newhouse and B. M. Wundt 1-81
Tests for Determining Fracture Toughness of Sheet Alloys *(ds)*....2-100-B
Tests for Notch Sensitivity, by J. E. Campbell and W. P. Achbach *(d)*....2-137-C

Furnaces, laboratory
Quartz-Tube Furnaces Aid Missile Research *(tn)*....5-67

Galvanized Steel
Color Finishing of Galvanized Steel, Staff Report....6-105

Gears
Automatic Quenching of Ring Gears....4-106
Flame Hardening Gears, by S. D. Heron *(c)*....3-130
Scoring of Gears at High Temperature, by E. G. Jackson, C. F. Muench and E. H. Scott *(d)*....3-176

Ghosts
Gone Fishing, by Melvin Brody *(c)*....6-136
Space-Happy Bainite, by C. Patrick Kenyon *(c)*....2-120

Glass
Can Refractory Metals Be Protected by Glass?, by Frank M. Gault *(c)*....4-150

Gold
Gold Coatings, by W. L. Aves, Jr. *(d)*....6-164
Got Any Use for Gold? *(tn)*....6-68

Graphite
Materials Progress in Graphite and Ceramics *(tn)*....5-68

Grinding
Belt Grinding Takes Role in Precision Finishing *(tn)*....5-68

Gun Metal
A Practical Technique for Welding Gun Metal, by L. A. DePue and W. A. Pennington....2-98

Hafnium
Properties of Iodide Hafnium, by J. G. Goodwin and F. R. Lorenz *(d)*....3-174

Hardenability
Boron in Steel, by R. A. Grange and J. B. Mitchell *(d)*....4-264
Does Silicon Accelerate Decarburization?, by Peter Payson....6-78
Hardenability Bands for Steels 4320-H to 4718-H *(ds)*....4-132-B
Hardenability Bands for Steels 6118-H to 8630-H *(ds)*....5-100-B

Hardening
New Hardening Technique, by W. M. Hogendoorn *(c)*....2-118

Hardening, dispersion
Eutectic Alloying of Copper . . . a New Concept in Dispersion Hardening, by D. N. Williams, J. W. Roberts and R. I. Jaffee....2-108

Hardness
Determining Hardness by X-Rays, by R. E. Marburger and D. P. Koistinen *(d)*....4-218
The How and Why of Microhardness Testing, by Vincent E. Lysaght....2-93
Where to Use Microhardness Testing, by Vincent E. Lysaght....3-121

Heading
More Parts by Cold Heading....4-77

Heat exchangers
Bimetallic Heat Exchanger Tubes Solve Dual Corrosion Problem, by W. G. Ashbaugh and S. E. Doughty....6-115

Heat resisting alloys
Astroloy—a Superalloy for 1900° F. Use, by J. F. Barker, W. H. Couts, Jr. and R. J. Morris....6-94
Brazing René 41, by G. S. Hoppin III....5-75
Brazing Superalloys, by E. H. Kinelski and J. B. Adamec *(d)*....3-167-A
Creep-Rupture of Nickel-Chromium Alloys, by Robert Widmer and N. J. Grant *(d)*....3-154
How to Fabricate René 41, by Louis A. Weisenberg and Robert J. Morris....5-70
Trends in Price of High-Alloy Castings, by E. A. Schoefer *(c)*....5-124
Up Trend in High-Alloy Castings Levels Off *(tn)*....3-67
Updating High-Temperature Metallurgy, by E. S. Jones and L. P. Jahnke....4-131

Heat treating furnaces
Fluid Bed Marks New Gain in Heat Treating *(tn)*....5-65
Heat Treating Large Steel Castings, by Thomas Ditchfield and Robert G. Waite....3-93
Vertical Furnaces Heat Treat Generator Rotors *(sr)*....2-115

Heat treatment, flame
Flame Hardening Gears, by S. D. Heron *(c)*....3-130

Heating, flash
Flash Heating, by L. S. Nelson *(d)*....1-194

High-strength steel
A Better Way to Weld HY-80? *(tn)*....1-67
Fracture Theory Applied to High-Strength Steels, by G. R. Irwin and J. A. Kies....2-73
High-Strength Steel Sheet (300M), by J. C. Chang, F. J. Herr and J. W. Sweet....6-101
Higher Molybdenum and Silicon Improve 4330 *(tn)*....4-66

***(aa)* Atomic Age; *(br)* Book Review; *(c)* Correspondence; *(cp)* Critical Points; *(d)* Digest; *(ds)* Data Sheet; *(lm)* Light Metallurgy; *(sr)* Short Runs; *(tn)* Technical News**

High-strength steel (cont.)
Modified 4340, Heat Treated to 270,000 to 300,000 Ultimate, by J. C. Chang, F. J. Herr and J. W. Sweet 5-104
Progress With 25% Nickel Steels for High-Strength Applications 5-99

Hydrogen
Hydrogen in Annealed Steel, by Michael Kotyk and H. M. Davis *(d)* 4-176
Hydrogen in Cold Worked Steel by J E. Werner and H. M. Davis *(d)* 4-174

Impact properties and tests
Fatigue From Impact, by N. N. Davidenkov and E. I. Belyaeva *(d)* 5-190
A New Fracture Test for Alloy Steels, by D. L. Newhouse and B. M. Wundt .. 1-81

Inclusions
Revealing Lead Inclusions in Leaded Steels, by Gladys M. Chalfant 3-77

Indium
The Cd-Bi-In System, by E. A. Peretti *(d)* 4-208

Intermetallic compounds, crystal structure
Phases in Transition Elements, by A. E. Dwight *(d)* 4-216

Iron
Iron Recovered From Tailings of Sulphide Ores *(tn)* 4-67
New Theory Explains Corrosion of Iron *(tn)* 4-66
Nickel as a Hardener of Iron, by Francis B. Foley *(c)* 3-128
Phosphorus in Alpha Iron, by E. Hornbogen *(d)* 4-234

Iron and steel industry
Imports of Foreign Steel Maintained at High Rate *(tn)* 3-66

Iron and steelmaking
Oxygen for Steel Plants *(tn)* 3-66
Steel Industry Consumes More Oxygen, *(tn)* 1-66
Western Meeting *(d)* 1-168

Iron and steelmaking, direct reduction
More Interest in Direct Iron Processes *(tn)* 5-66
Our Mistake! *(c)* 6-134

Iron and steelmaking, physical chemistry
Residual Elements in Steelmaking, by F. C. Langenberg and J. F. Johnston, Jr. 3-69

Liquid metals
Nuclear Fuels of Liquid Metal, by D. G. Schweitzer and J. R. Weeks *(d)* 4-250

Lubricants
Lubrication With Ice *(tn)* 1-67

Machining
Metal Cutting, by S. Kobayashi, R. P. Herzog, D. M. Eggleston and E. G. Thomsen *(d)* 2-170

Machining, chemical
Explosive Forming and Chemical Milling Discussed, by Robert C. Bertossa .. 3-112

Machining, electrochemical
Electrolytic Machining Shapes Hard Metals *(tn)* 6-66

Magnesium
Auto Makers Trim Costs With Magnesium Die Castings *(tn)* 6-67
Basal Slip in Magnesium, by T. A. Trozera, J. Mote and J. E. Dorn *(d)* .. 4-254
Magnesium Die Castings for Automobiles, by A. R. Tinetti 6-82

Magnesium alloys
Forge Welding High-Strength Aluminum and Magnesium Alloys, by L. A. Cook and D. G. Shafer 1-126
Progress in Magnesium Alloys, by James V. Winkler 4-146

Magnetic materials
Direct Conversion of Nuclear Heat to Electricity, by W. E. Shoupp 3-108

Metallography, etching
Simplified Cathodic Etching Equipment, by D. Armstrong, P. E. Madsen and E. C. Sykes *(d)* 6-172

Metallography, specimen preparation
Revealing Lead Inclusions in Leaded Steels, by Gladys M. Chalfant 3-77

Metallurgy
The Road Ahead for Metals, Reported by W. W. Austin *(d)* 4-270

Metallurgy, history
A Century-Old Test of Metal, by Harold J. Ronst 6-99

Missiles, applications of metals
Materials for Missiles and Space Vehicles *(d)* 3-142

Nickel
Nickel Embrittlement, by K. M. Olsen, C. F. Larkin and P. H. Schmitt, Jr. *(d)* 4-240
Self-Diffusion in Single Crystals, by A. Messner, R. Benson and J. Dorn *(d)* .. 4-242

Nickel, electroplating of
New Routes to Better Electroplate for Zinc Die Castings, by W. H. Safranek .. 1-69

Nickel alloys
Astroloy—a Superalloy for 1900° F. Use, by J. F. Barker, W. H. Couts, Jr. and R. J. Morris 6-94
Brazing René 41, by G. S. Hoppin III 5-75
Creep-Rupture of Nickel-Chromium Alloys, by Robert Widmer and N. J. Grant *(d)* 3-164
How to Fabricate René 41, by Louis A. Weisenberg and Robert J. Morris 5-70
"K" Monel Solves Arresting Hook Problem, by Albert R. Mead 3-117
Materials for Reactors, by C. R. Kennedy and D. A. Douglas *(d)* 2-167-A

Nonmetallic materials
Materials Progress in Nonmetallics *(tn)* 6-68

Notch sensitivity
Tests for Notch Sensitivity, by J. E. Campbell and W. P. Achbach *(d)* 2-137-C

Nuclear reactors
Direct Conversion of Nuclear Heat to Electricity, by W. E. Shoupp 3-108
Nondestructive Testing of Reactor Materials *(d)* 6-148
Nuclear Heat Converted to Electricity *(tn)* 3-65

Nuclear reactors, fuel elements
Nuclear Fuels of Liquid Metal, by D. G. Schweitzer and J. R. Weeks *(d)* 4-250

Openhearth practice
Burnt Lime and Oxygen Increase Steel Output *(tn)* 1-66
More on the Oxy-Fuel Lance *(tn)* 3-66

Oxidation
Mechanisms of Corrosion *(d)* 5-170

Oxygen
Oxygen for Steel Plants *(tn)* 3-66
Steel Industry Consumes More Oxygen *(tn)* 1-66

Painting
Study Reveals Best Way to Paint Welds *(tn)* 6-67

Palladium
Palladium Slows Titanium Corrosion *(tn)* 3-67

Phosphorus
Phosphorus in Alpha Iron, by E. Hornbogen *(d)* 4-234
Phosphorus in Stainless Steel, by G. R. Rundell and R. J. Raudebaugh *(d)* 4-244

Pickling
Ultrasonic Agitation Gives New Life to Pickling and Cleaning Baths, by H. F. Osterman and A. V. Santa Lucia 2-110

Pitting corrosion
Bimetallic Heat Exchanger Tubes Solve Dual Corrosion Problem, by W. G. Ashbaugh and S. E. Doughty 6-115

Plasma processing
Constricted-Arc Process Cuts Metals Under Water, by C. H. Wodtke 6-91

Plastics
Materials Progress in Applications for Nonmetallics *(tn)* 3-68

Plutonium alloys, rolling
Remote Controlled Mill for Rolling Plutonium Alloys, by A. J. Nussbaum *(sr)* 2-116

Powder metal compacts
Cold Working Improves Powder Metal Compacts *(tn)* 5-67
Gas Pressure Compacts Hot Uranium Nitride *(tn)* 6-67

Powders, metal
More Parts From Stainless Steel Powders *(tn)* 1-66
Spherical Powders Made in Inert Atmosphere *(tn)* 3-66

Precipitation hardening
The Earliest Days of Precipitation Hardening, by Francis B. Foley *(c)* 2-118
The Earliest Days of Precipitation Hardening, by W. J. Kroll *(c)* 1-134
The Earliest Days of Precipitation Hardening, by W. A. Mudge *(c)* 1-136
The Earliest Days of Precipitation Hardening, by John S. Shell *(c)* 1-138

Quenching
Fluid Bed Marks New Gain in Heat Treating *(tn)* 5-65
Measuring Quenching Rates With the Electronic Quenchometer, by H. J. Gilliland 4-111
Modern Quenching Techniques Make It Easier to Heat Treat Steel 4-101
Quenching in the Automatic Production Line, by O. E. Cullen 5-101

Radioactive tracer studies
Defects in Steel, by T. W. Crosta *(d)* 6-190

Railroad cars
Aluminum Railway Car Based on New Design *(tn)* 2-68

Refractory metals
Can Refractory Metals Be Protected by Glass?, by Frank M. Gault *(c)* 4-150
Materials for Missiles and Space Vehicles *(d)* 3-142
Refractory Metals for Air and Space Vehicles, by R. H. Gasner 5-80
Refractory Metals Worked in Argon-Filled Room *(tn)* 1-65
Single Crystals of Refractory Metals Made by Arc Fusion *(tn)* 2-66

Rhenium
Rhenium-Columbium Alloys, by P. Levesque, W. R. Bekebrede and H. A. Brown *(d)* 4-260

Rocket components
Spinning Makes Stronger Rocket Cases, by Lewis E. Zwissler 6-71

Rolling
Rolling Titanium Strip, by R. G. Wilcox and P. W. Whitton *(d)* 6-198

Safety
Sparks and Safety, by Harold Bernstein and G. C. Young *(d)* 6-173

Segregation
Segregation in Chromium Steel, by E. A. Loria *(d)* 6-167-A

Semiconductors
Electronic Metallurgy, by Harvey A. Anderson 5-119

Silicon
Does Silicon Accelerate Decarburization?, by Peter Payson 6-78
Zone Refining Ultra-Pure Silicon *(sr)* 3-126

Silicon iron
Silicon Irons up to Date, by Weston Morrill 3-80

Single crystals
Self-Diffusion in Single Crystals, by A. Messner, R. Benson and J. Dorn *(d)* .. 4-242
Single Crystals of Refractory Metals Made by Arc Fusion *(tn)* 2-66

Spheroidization
Efficient Spheroidization, by D. S. Kazarnovskiy *(d)* 3-148

Spinning
Spinning Makes Stronger Rocket Cases, by Lewis E. Zwissler 6-71

Stainless steel
Advances in Stainless Steels 4-81
Materials for Missiles and Space Vehicles *(d)* 3-142
Phosphorus in Stainless Steel, by G. R. Rundell and R. J. Raudebaugh *(d)* 4-244
Segregation in Chromium Steel, by E. A. Loria *(d)* 6-167A
Surface Films on Annealed Stainless Steels, by J. H. Waxweiler 3-80
Survey Predicts Bright Future for Stainless Steel *(tn)* 5-66

(aa) **Atomic Age;** *(br)* **Book Review;** *(c)* **Correspondence;** *(cp)* **Critical Points;** *(d)* **Digest;** *(ds)* **Data Sheet;** *(lm)* **Light Metallurgy;** *(sr)* **Short Runs;** *(tn)* **Technical News**

Stainless steel, corrosion
Chromium Steels in Refinery Service, by R. W. Manuel *(c)*....5-124
Corrosion of Stainless Steel Welds, by C. L. Angerman and P. M. Kranzlein *(d)*....4-262
Effect of Boron on "Weld Decay", by V. V. Levitin *(d)*....5-192
Salt Corrodes 18-8 Stainless Steels, by H. W. Pickering, F. H. Beck and M. G. Fontana *(d)*....4-200

Stainless steel, welding
Electrodes for Welding Type 347 Stainless, by Thomas J. Moore....1-93
Weld Defects in Austenitic Stainless; Cause and Cure *(ds)*....1-100-B
Welding Aluminum, Copper and Stainless Steel With Ultrasonics, by J. Byron Jones....1-117
Welding Solid-Fuel Rocket Motor Cases, by P. J. Rieppel....1-105

Stainless steel castings
Inoculants in Cast Austenitic Steel, by N. S. Kreshchanovskii and I. E. Zabludovskii *(d)*....3-180
Navy Picks Cast Stainless Alloy, by E. A. Schoefer *(sr)*....5-122

Stainless steel powder
More Parts From Stainless Steel Powders *(tn)*....1-66

Stamping
How to Make Better Drawings and Stampings, by Paul G. Nelson....4-85

Steel
How to Get More From Modern Steels....4-71

Steel, degassing
Hydrogen in Annealed Steel, by Michael Kotyk and H. M. Davis *(d)*....4-176
Hydrogen in Cold Worked Steel, by J. E. Werner and H. M. Davis *(d)*....4-174

Steel, drawing
New Concepts of Drawability of Steels, by R. L. Whiteley and D. J. Blickwede....4-74

Steel, microstructure
Microstructure Affects Fatique Strength of Steel, by F. Borik and R. D. Chapman *(d)*....4-227
Microstructure of Electrical Steel, by W. C. Leslie, R. L. Rickett, C. P. Stroble and G. Konoval *(d)*....4-258
Structure of Carburized and Carbo-Nitrided Cases, by S. R. Rouze and W. L. Grube....6-86

Steel, plastic deformation
Cold Work and Temperature Affect Steel, by P. Shaninian, M. R. Archer and W. A. Pennington *(d)*....4-230
Flow and Fracture Effects in Steel, by F. R. Larson and J. Nunes *(d)*....4-239-A

Steel castings
Heat Treating Large Steel Castings, by Thomas Ditchfield and Robert G. Waite....3-93

Steel ingots, defects
Steel Defects, by T. F. Pearson *(d)*....2-151-A

Steel sheet
Forming Galvanized Sheet Steel, by Paul G. Nelson....5-93
High-Strength Steel Sheet (300M), by J. C. Chang, F. J. Herr and J. W. Sweet....6-101

Steel strip, annealing
Open-Coil Process for Gas Alloying of Steel *(tn)*....2-66

Steel tubing and pipe welding
High-Frequency Resistance Welding Fills Need for Fast Joining Method, by Wallace C. Rudd....1-120
Problems in Field Welding Chromium-Molybdenum Pipe, by R. L. Skaggs..1-101

Stress analysis
Stress Analysis With a Photoelastic Coating, by Felix Zandman....5-111

Stress-relief
Problems in Field Welding Chromium-Molybdenum Pipe, by R. L. Skaggs..1-101

Stretch-forming
Auto Industry Looks at Stretch-Forming *(tn)*....6-66

Temperature measurement
Measuring Surface Temperatures, by R. G. Clark *(d)*....2-156

Temperature scale
A Homologous Temperature Scale for Metals, by J. H. Westbrook....3-100
A Homologous Temperature Scale for Metals, by J. H. Westbrook *(ds)*....3-100-B

Tension-impact test
Tensile-Impact Test Reveals Best Hot Working Temperature *(tn)*....4-65

Thermocouples
Thermocouples for High Temperatures, by J. C. Lachman *(d)*....2-164

Thermodynamic properties
A Homologous Temperature Scale for Metals, by J. H. Westbrook....3-100
A Homologous Temperature Scale for Metals, by J. H. Westbrook *(ds)* 3-100-B

Titanium
Machining Titanium *(d)*....3-172
Materials for Missiles and Space Vehicles *(d)*....3-142
Palladium Slows Titanium Corrosion (tn)....3-67
Rolling Titanium Strip, by R. G. Wilcox and P. W. Whitton *(d)*....6-198
Transformations in Titanium Alloys, by E. L. Harmon and A. R. Troiano *(d)*..4-248
Welding Titanium and Its Alloys, by G. E. Faulkner and C. B. Voldrich *(d)*..1-154
Yttrium-Titanium Alloys, by D. W. Bare and O. N. Carlson *(d)*....4-206

Titanium, arc melting
Effect of Pressure in Consumable Arc Melting, by J. W. Suiter *(d)*....3-170

Toolsteel
Distortion . . . a Heat Treater's Problem, Reviewed by George A. Roberts *(br)*....2-106

Transition elements
Phases in Transition Elements, by A. E. Dwight *(d)*....4-216

Tubing and pipe
Nondestructive Testing of Small Tubing, by J. R. Grieve and A. M. Bounds....6-110

Tungsten
Tungsten Formed at High Velocity *(tn)* 4-67

Tungsten, texture and preferred orientation
Cylindrical Textures, by S. Leber *(d)*....4-192

Tungsten carbide
Wear of Nonferrous Metals by Tungsten Carbide, by J. Golden and G. W. Rowe *(d)*....1-192

Uranium
Gas Pressure Compacts Hot Uranium Nitride *(tn)*....6-67
U^{235} to a Stockpile? *(aa)*....4-68
Uses for Depleted Uranium *(tn)*....5-67

Vapor deposition coating
Aluminum Applied to Steel by Vapor Deposition *(tn)*....5-66

Waste Control
Treating Waste From Chromium Plating, by A. J. D'Orazio *(sr)*....6-125

Wear
Scoring of Gears at High Temperature, by E. G. Jackson, C. F. Muench and E. H. Scott *(d)*....3-176
Wear of Nonferrous Metals by Tungsten Carbide, by J. Golden and G. W. Rose *(d)*....1-192

Welding, arc
A Fundamental Study of the Tungsten Arc, by E. F. Gibbs....1-84
Welding Solid-Fuel Rocket Motor Cases, by P. J. Rieppel....1-105

Welding, arc, gas shielded
Automatic Tube Welding Increases Reliability, Lowers Reject Rate, by L. H. Hawthorne....1-131
A Better Way to Weld HY-80? *(tn)*.... 1-67
Button Welding . . . a Low-Cost Production Tool, by J. J. Chyle....1-129
Dip Transfer Process: Low-Spatter Welding in Any Position, by A. Lesnewich....1-115
Instrumentation for Better Welds, by D. J. Logan and W. K. Moen....1-111
Vapor-Shielded Arc Means Faster Welding, by R. A. Wilson....4-96

Welding, arc, percussion
Percussion Welding Makes Quick, Low-Cost Wire Connections, by J. S. Gellatly, K. F. Johnson and A. L. Quinlan....1-122

Welding, electron beam
Electron Beam Welding: Emphasis on Precision and Freedom From Contamination, by Marsbed Hablanian....1-127

Welding, forge
Forge Welding High-Strength Aluminum and Magnesium Alloys, by L. A. Cook and D. G. Shafer....1-126

Welding, friction
Friction Welding: a Lesson in Economics From Russia, by Arthur B. Tesmen....2-101

Welding, research
Welding Research Council Surveys Welding Problems *(tn)*....3-68
Welding Research in East Germany, by A. A. Smith *(d)*....2-167-A

Welding, resistance
High-Frequency Resistance Welding Fills Need for Fast Joining Method, by Wallace C. Rudd....1-120
Two-Step Process Mates and Joins Parts in Pilot Projection Welding, by D. C. Williams....1-124

Welding, spot
Weld Defects in Austenitic Stainless: Cause and Cure *(ds)*....1-100-B

Welding, ultrasonic
Welding Aluminum, Copper and Stainless Steel With Ultrasonics, by J. Byron Jones....1-117

Welding controls
Instrumentation for Better Welds, by D. J. Logan and W. K. Moen....1-111

Welding electrodes
Electrodes for Welding Type 347 Stainless, by Thomas J. Moore....1-93

Weldments, corrosion
Study reveals Best Way to Paint Welds *(tn)*....6-67

Weldments, stress-relief
Problems in Field Welding Chromium-Molybdenum Pipe, by R. L. Skaggs....1-101

Whiskers
Fiber Metallurgy: The Study of Whiskers *(ep)*....6-89
Metals Reinforced With Fibers, by D. L. McDanels, R. W. Jech and J. W. Weeton....6-118

Wiredrawing
Strong Steel for Cold Upset *(d)*....2-160

Yttrium
Yttrium Alloys *(d)*....3-190
Yttrium-Titanium Alloys, by D. W. Bare and O. N. Carlson *(d)*....4-206

Zinc
Zinc Coatings Applied by Tumbling (tn)....3-67
Zinc Protects Hot Columbium *(tn)*.... 6-66

Zinc die castings
Good Design Pays Off in Zinc and Gray Iron Castings....6-122
New Routes to Better Electroplate for Zinc Die Castings, by W. H. Safranek 1-69

Zirconium
Corrosion of Zirconium, by W. E. Kuhn *(d)*....1-198
Fabricating Zircaloy-2, by C. N. Spalaris *(d)*....3-154

Zone melting
Zone Refining Ultra-Pure Silicon *(sr)*....3-126

***(aa)* Atomic Age; *(br)* Book Review; *(c)* Correspondence; *(cp)* Critical Points; *(d)* Digest; *(ds)* Data Sheet; *(lm)* Light Metallurgy; *(sr)* Short Runs; *(tn)* Technical News**

Author Index

Achbach, W. P. *(d)* 2-137-C
Adamec, J. B. *(d)* 3-167-A
Anderson, Harvey A. 5-119
Angerman, C. L. *(d)* 4-262
Archer, M. R. *(d)* 4-230
Armstrong, D. *(d)* 6-172
Asai, G. *(d)* 3-160
Ashbaugh, W. G. 6-115
Austin, W. W. *(d)* 4-270; 5-88
Averbach, B. L. *(d)* 3-156
Aves, Jr., W. L. *(d)* 6-164
Ayres, Robert F. 3-101
Bare, D. W. *(d)* 4-206
Barker, J. F. 6-94
Baughman, R. A. 6-201
Beck, F. H. *(d)* 4-200
Bekebrede, W. R. *(d)* 4-260
Belyaeva, E. I. *(d)* 5-190
Benson, R. *(d)* 4-242
Bernstein, Harold 2-79; *(d)* 6-178
Bertossa, Robert C. 3-112
Bishop, Tom 5-95
Blickwede, D. J. 4-74; *(ds)* 6-100-B
Block, F. E. *(d)* 3-160
Borik, F. *(d)* 4-222
Botar, Livius Maria *(c)* 6-134
Bounds, A. M. 6-110
Brody, Melvin *(c)* 6-136
Brown, H. A. *(d)* 4-260
Campbell, J. E. *(d)* 2-137-C
Carlson, O. N. *(d)* 4-206
Carroll, Kenneth G. *(c)* 6-124
Chalfant, Gladys M. 3-77
Chang, J. C. 5-104; 6-101
Chapman, R. D. *(d)* 4-222
Chyle, J. J. 1-129
Clark, R. G. *(d)* 2-156
Cook, L. A. 1-126
Couts, W. H. 6-94
Crosta, T. W. *(d)* 6-190
Cullen, O. E. 5-101
D'Orazio, A. J. 6-125
Davidenkov, N. N. *(d)* 5-190
Davis, H. M. *(d)* 4-174; *(d)* 4-176
DePue, L. A. 2-98
Ditchfield, Thomas 3-93
Dorn, J. *(d)* 4-242
Dorn, J. E. *(d)* 4-254
Doughty, S. E. 6-115
Douglas, D. A. *(d)* 2-167-A
Dwight, A. E. *(d)* 4-216
Eggleston, D. M. *(d)* 2-170
Elliott, R. P. *(d)* 4-246
Espey, G. B. 2-83
Faulkner, G. E. *(d)* 1-154
Foley, Francis B. *(c)* 2-118; *(c)* 3-128
Fontana, M. G. *(d)* 4-200
Frank, R. G. 1-76
Garmon, L. B. *(d)* 2-146
Garwood, M. F. 4-115
Gassner, Robert H. 3-88; 5-80
Gault, Frank M. *(c)* 4-150
Gellatly, J. S. 1-122
Gibbs, E. F. 1-84
Gilliland, E. J. 4-111
Golden, J. *(d)* 1-192
Good, P. C. *(d)* 3-160
Goodwin, J. G. *(d)* 3-174
Gottschalk, Roy F. 3-97
Grange, R. A. *(d)* 4-264
Grant, N. J *(d)* 3-164
Grieve, J. R. 6-110
Grube, W. L. 6-86
Hablanian, Marsbed 1-127
Hanink, Dean K. 2-89; *(c)* 4-150
Harmon, E. L. *(d)* 4-248
Hawthorne, L. H. 1-131
Heron, S. D. *(c)* 3-130
Herr, F. J. 5-104; 6-101
Herzog, R. P. *(d)* 2-170
Hess, R. C. *(ds)* 6-100-B
Hillert, Mats *(d)* 4-210
Hogendoorn, W. M. *(c)* 2-118
Hoppin III, G. S. 5-75
Hornbogen, E. *(d)* 4-234
Hyslop, Marjorie R. *(d)* 6-168
Irwin, G. R. 2-73
Jackson, E. G. *(d)* 3-176
Jaffee, R. I. 2-108
Jahnke, L. P. 1-76; 4-131
Jech, R. W. 6-118
Jeffries, Zay 3-64-E
Johnson, K. F. 1-122
Johnston, J. F. Jr. 3-69
Jones, E. S. 4-131
Jones, J. Byron 1-117
Joseph, Carl F. *(br)* 5-121
Judd, T. W. 6-98
Kazarnovskiy, D. S. *(d)* 3-148
Kennedy, C. R. *(d)* 2-167-A
Kenyon, C. Patrick *(c)* 2-120
Kies, J. A. 2-73, 2-79
Kinelski, E. H. *(d)* 3-167-A
Kinsey, H. V. *(c)* 2-118
Klier, E. P. *(d)* 4-266
Kobayashi, S. *(d)* 2-170
Koistinen, D. P. *(d)* 4-218
Konoval, G. *(d)* 4-258
Kotyk, Michael *(d)* 4-176
Kranzlein, P. M. *(d)* 4-262
Kreshchanovskii, N. S. *(d)* 3-180
Kroll, W. J. *(c)* 1-134
Kuhn, W. E. *(d)* 1-198
Lachman, J. C. *(d)* 2-164
Langenberg, F. C. 3-69
Larkin, C. F. *(d)* 4-240
Larson, F. R. *(d)* 4-239-A
Leber, S. *(d)* 4-192
Leidheiser, Henry, Jr. *(d)* 2-146
Lement, Bernard S. *(br)* 2-106
Leslie, W. C. *(d)* 4-258
Lesnewich, A. 1-115
Levesque, P. *(d)* 4-260
Levitin, V. V. *(d)* 5-192
Logan, D. J. 1-111
Lorenz, F. R. *(d)* 3-174
Lorin, E. A. *(d)* 6-167A
Lysaght, Vincent E. 2-93; 3-121
Madsen, P. E. *(d)* 6-172
Manuel, R. W. *(c)* 5-124
Marburger, R. E. *(d)* 4-218
McDaniels, D. L. 6-118
Mead, Albert R. 3-117
Messner, A. *(d)* 4-242
Mitchell, J. B. *(d)* 4-264
Moen, W. K. 1-111
Moore, Thomas J. 1-93
Morrill, Weston 3-84
Morris, Robert J. 5-70; 6-94
Mote, J. *(d)* 4-254
Mudge, W. A. *(c)* 1-136
Muench, C. F. *(d)* 3-176
Navara, Vaclav *(d)* 6-205
Nelson, L. S. *(d)* 1-194
Nelson, Paul G. 4-85; 5-93
Newhouse, D. L. 1-81
Nunes, J. *(d)* 4-239-A
Nussbaum, A. J. *(sr)* 2-116
Olsen, K. M. *(d)* 4-240
Osterman, H. F. 2-110
Payson, Peter 6-78
Pearson, T. F. *(d)* 2-151-A
Pennington, W. A. 2-98; *(d)* 4-230
Peretti, E. A. *(d)* 4-208
Pickering, H. W. *(d)* 4-200
Princ, Frantisek *(d)* 6-205
Quinlan, A. L. 1-122
Raudebaugh, R. J. *(d)* 4-244
Read, H. J. *(d)* 6-194
Redden, T. K. 1-76
Rickett, R. L. *(d)* 4-258
Rieppel, P. J. 1-105
Roast, Harold J. 6-99
Roberts, George A. *(br)* 2-106
Roberts, J. W. 2-108
Rouse, S. R. 6-86
Rowe, G. W. *(d)* 1-192
Rudd, Wallace C. 1-120
Rundell, G. R. *(d)* 4-244
Ruppender, R. R. *(c)* 1-142
Safranek, W. H. 1-69
Samuels, L. E. *(d)* 3-190
Santa Lucia, A. V. 2-110
Scheil, Merrill A. *(c)* 6-124
Schmitt, P. H. Jr. *(d)* 4-240
Schoefer, E. A. *(c)* 5-124; *(sr)* 5-122
Schweitzer, D. G. *(d)* 4-250
Scott, E. H. *(d)* 3-176
Shafer, D. G. 1-126
Shahinian, P. *(d)* 4-230
Sharp, H. J. *(d)* 3-153-A
Shell, John S. *(c)* 1-138
Shoupp, W. E. 3-108
Sippel, George R. 2-89
Skaggs, R. L. 1-101
Smith, A. A. *(d)* 2-167-A
Smith, Cyril Stanley *(d)* 4-286
Spalaris, C. N. *(d)* 3-154
Stroble, C. P. *(d)* 4-258
Suiter, J. W. *(d)* 3-170
Sweet, J. W. 5-104; 6-101
Sykes, E. C. *(d)* 6-172
Teamen, Arthur B. 2-101
Thomsen, E. G. *(d)* 2-170
Tinetti, A. R. 6-82
Troiano, A. R. *(d)* 4-248
Trozera, T. A. *(d)* 4-254
Voldrich, C. B. *(d)* 1-154
Waite, Robert G. 3-93
Waxweiler, J. H. 3-80
Weeks, J. R. *(d)* 4-250
Weeton, J. W. 6-118
Weigert, Karl M. *(c)* 1-140
Weimer, D. E. *(d)* 1-178
Weinberg, Alvin M. *(d)* 6-196
Weisenberg, Louis A. 5-70
Werner, J. E. *(d)* 4-174
Westbrook, J. H. 3-100; *(ds)* 3-100-B
Weymueller, Carl R. 2-104
Whalen, T. J. *(d)* 6-194
Whiteley, R. L. 4-74
Whitton, P. W. *(d)* 6-198
Widmer, Robert *(d)* 3-164
Wilcox, R. G. *(d)* 6-198
Williams, D. C. 1-124
Williams, D. N. 2-108; *(d)* 2-158
Wilson, R. A. 4-96
Winkler, James V. 4-146
Wodtke, C. H. 6-91
Wundt, B. M. 1-81
Yeh, T. H. *(d)* 4-266
Young, G. C. *(d)* 6-173
Yukawa, S. *(d)* 4-255
Zabludovskii, I. E. *(d)* 3-180
Zandman, Felix 5-111
Zerbe, F. K. *(c)* 6-124
Zwissler, Lewis E. 6-71

(aa) **Atomic Age;** ***(br)*** **Book Review;** ***(c)*** **Correspondence;** ***(cp)*** **Critical Points;** ***(d)*** **Digest;** ***(ds)*** **Data Sheet;** ***(lm)*** **Light Metallurgy;** ***(sr)*** **Short Runs;** ***(tn)*** **Technical News**